FUTURE FISHERIES IMPROVEMENT PROGRAM GRANT APPLICATION

(please fill in the highlighted areas)

I.	AP	PPLICANT INFORMATION									
	A.	Applicant Name: Big Blackfoot Chapter o	f Trout Unlimited								
	B.	Mailing Address: PO Box 1									
	C.	City: Ovando	State: MT Zip: 59854								
		Telephone: <u>406-240-4824</u>	E-mail: <u>ryen@montanatu.org</u>								
	D.	Contact Person: Ryen Neudecker									
		Address if different from Applicant:									
		Address if different from Applicant.									
		City:	State: Zip:								
		Telephone:	E-mail:								
	E.	Landowner and/or Lessee Name (if other than Applicant):	Patt Donich								
		Mailing Address: PO Box 747									
		Maining / Mariooo.									
		City: Seeley Lake	State: MT Zip: 59868								
		Telephone:	E-mail: <u>tdonich@doublearrowlodge.com</u>								
II.	PR	ROJECT INFORMATION*									
	^	Duningt Names Trail Const. Figh Constraint	December Dunicat								
	A.	Project Name: Trail Creek Fish Screening/	Passage Project								
		River, stream, or lake: Trail Creek									
		Leastiene Termeline 40N	AFW Continue 4								
		· · · · · · · · · · · · · · · · · · ·	ange: 15W Section: 1								
		Latitude: 47.16736 Le	ongitude: 113.43769 within project (decimal degrees)								
		County: Missoula									
	_										
	B.	Purpose of Project:									
			Project is to eliminate fish entrainment, improve								
		migration corridors for native migratory trout, and restore channel integrity at the diversion site on									

C. Brief Project Description:

Trail Creek is a third order tributary to Morrell Creek near Seeley Lake, MT. Morrell Creek feeds the Clearwater River—the largest tributary to the Big Blackfoot River. Trail Creek drains the west side of Pyramid Pass and flows 10 miles through a mixture of USFS and private land before entering lower Morrell Creek. These systems are significant and rank as high priorities in FWP Region 2 as they support one of the largest adfluvial bull trout populations in the upper Clark fork Basin and genetically pure westslope cutthroat trout populations in the headwaters. The proposed project involves screening the last of three large irrigation diversions within the Trail/Morrell Creek watershed. The existing irrigation diversion structure on Trail Creek (located near stream-mile two) entrains high numbers of trout (FWP unpublished data) and acts as an obstruction to upstream fish passage. The current structure consists of a channel-spanning pin-and-plank check dam, with a small denil ladder that provides partial fish passage.

Through the water rights adjudication process, FWP has worked with irrigators and other water right holders to negotiate minimum instream flow levels that provide stream connectivity and ensure biological integrity. Agreements also specify allowable water diversion rates for irrigators. Now that target flow levels for both diversion and instream flow needs have been identified, the partnership would like to move forward in upgrading the existing irrigation diversion system to meet irrigation, stream function and native trout requirements.

Specific project objectives involve replacing the existing pin/plank dam used to divert water with a rock cross-vane and armored riffle set at an elevation to allow fish passage, stream channel function and bedload movement. A fish screen with a bypass will also be installed within the ditch. A "McKay" style, flat palate, self-cleaning screen with a paddlewheel is the proposed design that will be evaluated. Flow measuring devices will also be installed within each ditch as well as downstream of the diversion.

Specific project objectives include:

- 1. Eliminate fish entrainment in existing irrigation diversion for all salmonids age 1+ and larger
- 2. Provide upstream fish passage for all sizes of salmonids (>1+) at all flow levels by upgrading the existing instream irrigation infrastructure.
- 3. Install stable check structure and head works that pass stream bedload, minimize deposition in diversion inlet, bypass salmonids and deliver prescribed water to irrigators. Targeted water right is 4 cfs maximum.
- 4. Maintain minimum instream flow levels necessary for connectivity and stream integrity below existing diversion on Trail Creek.
- D. Length of stream or size of lake that will be treated:

The project will improve conditions in the immediate vicinity of the diversion, but will restore unimpeded access and recruitment to the upper 13 miles of the Trail Cr basin.

E. Project Budget:

Grant Request (Dollars): \$ 21,175

Contribution by Applicant (Dollars): \$ 2,200 In-kind \$ 3,600

(salaries of government employees are not considered as matching contributions)

Contribution from other Sources (Dollars): \$ 32,000 In-kind \$ 1,000

(attach verification - See page 2 budget template)

Total Project Cost: \$ 59,975.00

F. Attach itemized (line item) budget – see template

- Attach specific project plans, detailed sketches, plan views, photographs, maps, evidence of landowner consent, evidence of public support, and/or other information necessary to evaluate the merits of the project. If project involves water leasing or water salvage complete <u>supplemental</u> questionnaire (fwp.mt.gov/habitat/futurefisheries/supplement2.doc).
- H. Attach land management and maintenance plans that will ensure protection of the reclaimed area.

III. PROJECT BENEFITS*

A. What species of fish will benefit from this project?:

Westslope cutthroat trout, bull trout and brook trout.

B. How will the project protect or enhance wild fish habitat?:

By upgrading infrastructure, providing unobstructed fish passage, and screening the diversion, the project will improve connectivity and recruitment potential for wild trout populations including bull trout, westslope cutthroat trout and brook trout.

C. Will the project improve fish populations and/or fishing? To what extent?:

Yes. This project seeks to eliminate limiting factors affecting wild trout movement and recruitment, as well as helping to ensure instream flow requirements are met in Trail Creek.

D. Will the project increase public fishing opportunity for wild fish and, if so, how?:

Yes, by increasing wild trout recruitment and access to spawning habitat in the Clearwater watershed. The public has legal access to Trail Creek at the project location as well as upstream on USFS land. Adults occupy Clearwater River and lakes, which are all readily accessible to public

E. If the project requires maintenance, what is your time commitment to this project?:

The landowners and water right holders have agreed to sign a 20-year agreement.

F. What was the cause of habitat degradation in the area of this project and how will the project correct the cause?:

The existing pin and plank diversion has created channel/fish passage impacts and the unscreened diversion is entraining trout populations.

G. What public benefits will be realized from this project?:

This project involves the continuation of the partnership driven Blackfoot Restoration program and will benefit both a Federally threatened species and a MT Species of Special Concern. In addition to improving instream habitat conditions, fish survival and migration, this project is very visible and will be an excellent educational opportunity for the community of Seeley Lake.

H. Will the project interfere with water or property rights of adjacent landowners? (explain):

No. This project is able to proceed due to negotiations between water right holders and FWP that accurately reflect allowable irrigation rates, as well as specified instream flow values during low flow periods on Trail Creek.

I. Will the project result in the development of commercial recreational use on the site?: (explain):

No

J. Is this project associated with the reclamation of past mining activity?:

No

Each approved project sponsor must enter into a written agreement with the Department specifying terms and duration of the project.

IV. AUTHORIZING STATEMENT

I (we) hereby declare that the information and all statements to this application are true, complete, and accurate to the best of my (our) knowledge and that the project or activity complies with rules of the Future Fisheries Improvement Program.

Applicant Signature:

Tyer nendecker

Date: 5-26-15

Sponsor (if applicable):

^{*}Highlighted boxes will automatically expand.

Mail To: Montana Fish, Wildlife & Parks

Habitat Protection Bureau

PO Box 200701

Helena, MT 59620-0701

E-mail To: Michelle McGree

mmcgree@mt.gov

Incomplete or late applications will be returned to applicant.

Applications may be rejected if this form is modified.

Applications may be submitted at anytime, but must be received by the Future Fisheries Program office in Helena <u>before</u> December 1 and June 1 of each year to be considered for the subsequent funding period.

WORK ITEMS						CONTRIBUTIONS				
(ITEMIZE BY	NUMBER OF	UNIT				FUTURE FISHERIES				
CATEGORY)	UNITS	DESCRIPTION*	COST/UNIT		TOTAL COST	REQUEST	IN-KIND SERVICES	IN-KIND CASH		TOTAL
Personnel										
Survey	20	hrs	\$80.00	\$	1,600.00			1,600.00	\$	1,600.00
Design	60	hrs	\$95.00	\$	5,700.00			5,700.00	\$	5,700.00
Engineering	50	hrs	\$100.00	\$	5,000.00			5,000.00	\$	5,000.00
Permitting	15	hrs	\$40.00	\$	600.00		600.00		\$	600.00
Oversight	80	hrs	\$85.00	\$	6,800.00	1,175.00	2,600.00	3,025.00	\$	6,800.00
Labor	35	hrs	\$65.00	\$	2,275.00	1,000.00		1,275.00	\$	2,275.00
			Sub-Total	\$	21,975.00				\$	21,975.00
<u>Travel</u>										
Mileage				\$	-				\$	-
Per diem				\$	-				\$	-
			Sub-Total	\$	-				\$	-
Construction Ma	terials			•						
Fish Screen	1	each	\$14,000.00	\$	15,000.00	8,000.00		7,000.00	\$	15,000.00
Concrete box	1	each	\$8,000.00	\$	8,000.00	3,000.00		5,000.00	\$	8,000.00
Rock	80	CY	\$50.00	\$	4,000.00	2,000.00		2,000.00	\$	4,000.00
Pipe	misc	lump sum	\$500.00	\$	500.00			500.00	\$	500.00
			Sub-Total	\$	27,500.00				\$	27,500.00
Equipment									•	
Hydraulic										
Excavator	80	hours	\$125.00	\$	10,000.00	6,000.00		4,000.00	\$	10,000.00
			Sub-Total	\$	10,000.00				\$	10,000.00
<u>Mobilization</u>										
Equipment	1	lump sum	\$500.00	\$	500.00			500.00	\$	500.00
			Sub-Total	\$	500.00	\$ -	\$ -	\$ 500.00	\$	500.00
			TOTALS	\$	59,975.00	\$ 21,175.00	\$ 3,200.00	\$ 35,600.00	\$	59,975.00

^{*}Units = feet, hours, inches, lump sum, etc.

MATCHING CONTRIBUTIONS

CONTRIBUTOR	IN-KIND SERVICE		IN-KIND CASH		TOTAL	Verified? (Y/N)
Montana Trout Unlimited		\$	6,000.00	\$	6,000.00	Yes
USFWS	\$ 1,000.00	\$	10,000.00	\$	10,000.00	Yes
RAC		\$	15,000.00	\$	15,000.00	August notification
DARLOA		\$	1,000.00	\$	1,000.00	Yes
BBCTU	\$ 2,200.00	\$	3,600.00	\$	5,800.00	Yes

Pages 1 of 1 (Revised 5/28/2015) 6







Photos 1-3: Existing diversion on Trail Creek entraining salmonids and creating channel impacts. Existing denil fish ladder is not effective at passing all salmonids as FWP has detected bull trout avoid these structures.

PRELIMINARY DESIGN FISH SCREEN INSTALLATION AND IRRIGATION DIVERSION IMPROVEMENT TRAIL CREEK NEAR LINCOLN, MONTANA

PROJECT PARTNERS



BIG BLACKFOOT CHAPTER OF TROUT UNLIMITED PO Box 1
Ovando, MT 59854



MONTANA FISH WILDLIFE & PARKS 3201 SPURGIN ROAD MISSOULA, MONTANA 59804

PROJECT DESCRIPTION

LOCATED NEAR SEELEY LAKE, MONTANA, TRAIL CREEK IS A THIRD ORDER TRIBUTARY TO MORRELL CREEK IN THE CLEARWATER RIVER DRAINAGE. DRAINING THE WEST SIDE OF PYRAMID PASS, TRAIL CREEK FLOWS APPROXIMATELY 10 MILES THROUGH A MIXTURE OF U.S.F.S. AND PRIVATE LANDS TO ITS CONFLUENCE WITH MORRELL CREEK. THE PROJECT AREA IS LOCATED IN LOWER TRAIL CREEK, AND CONSISTS OF DIVERSION AND FISH PASSAGE INFRASTRUCTURE THAT CURRENTLY IMPACT CHANNEL MORPHOLOGY AND IMPEDE UPSTREAM FISH PASSAGE. OVER THE PAST SEVERAL YEARS, MONTANA FISH, WILDLIFE & PARKS HAS BEEN COLLABORATING WITH WATER RIGHTS HOLDERS TO NEGOTIATE A MINIMUM INSTREAM FLOW TARGET LEVEL FOR CONNECTIVITY AND STREAM INTEGRITY BY LIMITING DIVERSION VOLUMES. AS PART OF THESE NEGOTIATIONS, A SPECIFIC ALLOWABLE WATER DIVERSION RATE WAS NEGOTIATED THROUGH THE WATER RIGHTS ADJUDICATION PROCESS ESTABLISHING FLOW LEVELS FOR BOTH DIVERSION AND INSTREAM NEEDS. BIG BLACKFOOT CHAPTER OF TROUT UNLIMITED (BBCTU) HAS CONTRACTED WITH RIVER DESIGN GROUP, INC (R.D.G.). TO PREPARE AN ENGINEERED DESIGN THAT WILL IMPROVE FISH PASSAGE AND ELIMINATE ENTRAINMENT OF WESTSLOPE CUTTHROAT TROUT, BULL TROUT AND OTHER FISH SPECIES ASSOCIATED WITH THE DIVERSION STRUCTURE.

SPECIFIC OBJECTIVES OF THIS PROJECT INCLUDE:

- ELIMINATE FISH ENTRAINMENT IN THE EXISTING IRRIGATION DIVERSION FOR ALL SALMONIDS AGE 1+ AND LARGER:
- PROVIDE UPSTREAM FISH PASSAGE FOR ALL SIZES OF SALMONIDS (>1+) AT ALL FLOW LEVELS BY UPGRADING THE EXISTING INSTREAM IRRIGATION INFRASTRUCTURE:
- INSTALL STABLE CHECK STRUCTURE AND HEAD WORKS THAT PASS STREAM BEDLOAD, MINIMIZE DEPOSITION IN THE DIVERSION INLET, BYPASS SALMONIDS AND DELIVER PRESCRIBED WATER TO IRRIGATORS (TARGETED MAXIMUM WATER RIGHT OF 4 CUBIC FEET PER SECOND MAXIMUM); AND
- MAINTAIN MINIMUM INSTREAM FLOW LEVELS NECESSARY FOR CONNECTIVITY AND STREAM INTEGRITY BELOW THE EXISTING DIVERSION ON TRAIL CREEK.

THIS PLAN SET REPRESENTS A PRELIMINARY DESIGN. INCLUDED ARE FIVE SHEETS: 1) 1.0: COVER PAGE AND NOTES; 2) 2.0 EXISTING CONDITIONS; 3) 3.0 EXISTING PROFILES; 4) 4.0 EXISTING CROSS SECTIONS; AND 5) PRELIMINARY DESIGN. R.D.G. AND BBCTU ARE IN THE PROCESS OF REFINING THE DESIGN WITH AN ANTICIPATED COMPLETION DATE OF JULY 2015. IMPLEMENTATION OF THE DESIGN IS SCHEDULED FOR FALL 2015.

BENCHMARK

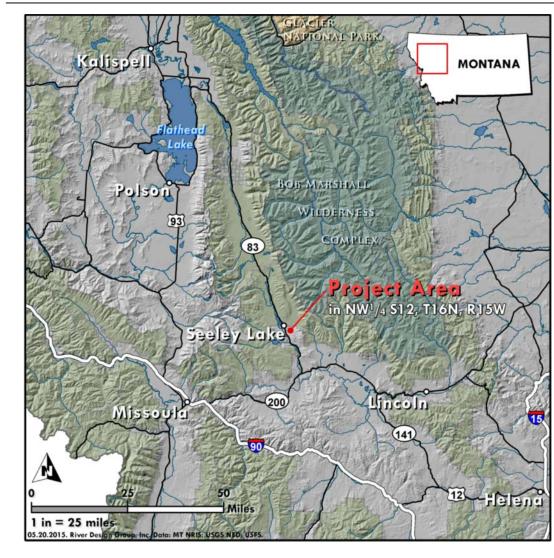
SURVEY CONTROL WAS ESTABLISHED UNDER THE RESPONSIBLE CHARGE OF ANDREW BELSKI, PLS 14731.

THE PROJECT COORDINATES ARE BASED ON THE FOLLOWING:

HORIZONTAL PROJECTION: MT83F

HORIZONTAL DATUM: NAD83 CORS 2011
UNITS: US SURVEY FEET
VERTICAL DATUM: NAVD88 (GEOID 12A)

PROJECT VICINITY MAP



DRAWING INDEX

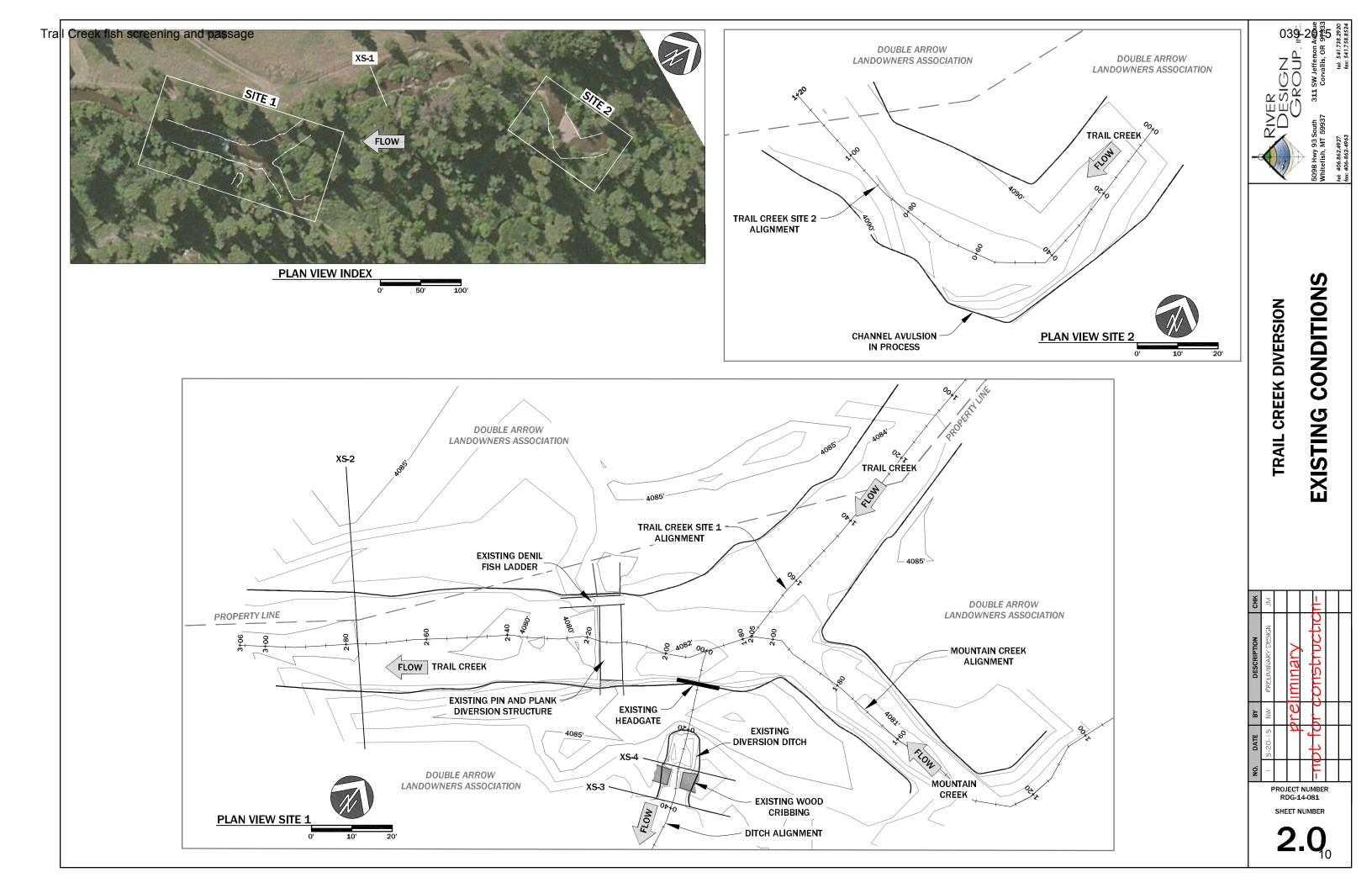
- 1.0 COVER PAGE AND NOTES
- 2.0 EXISTING CONDITIONS
- 3.0 EXISTING PROFILES
- 4.0 EXISTING CROSS SECTIONS
- 5.0 PRELIMINARY DESIGN
- 6.0 CONCRETE BOX DETAIL

RIVER
DESIGN 0
236 Wisconsin Avenue 311 SW Jefferson Availle, ON 97233 Whitefish, WI 59937 Corvellis, ON 97233

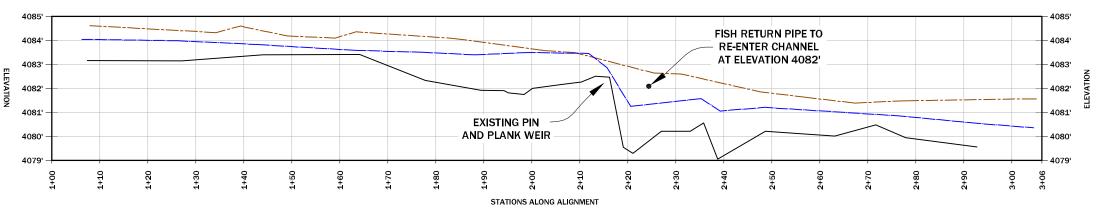
SOVER PAGE AND NOTES

TRAIL CREEK DIVERSION

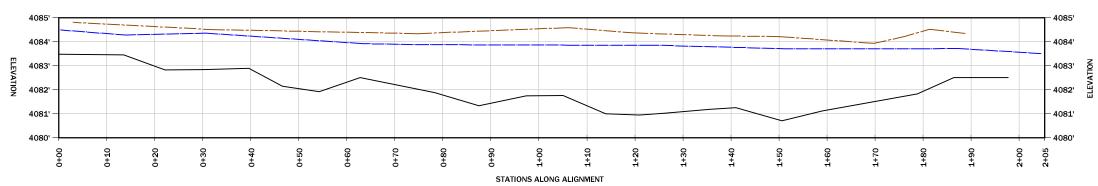


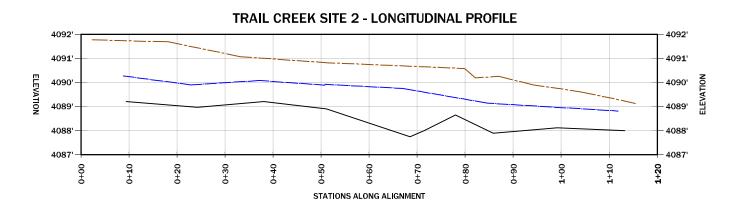


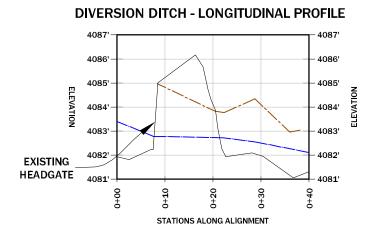




MOUNTAIN CREEK - LONGITUDINAL PROFILE



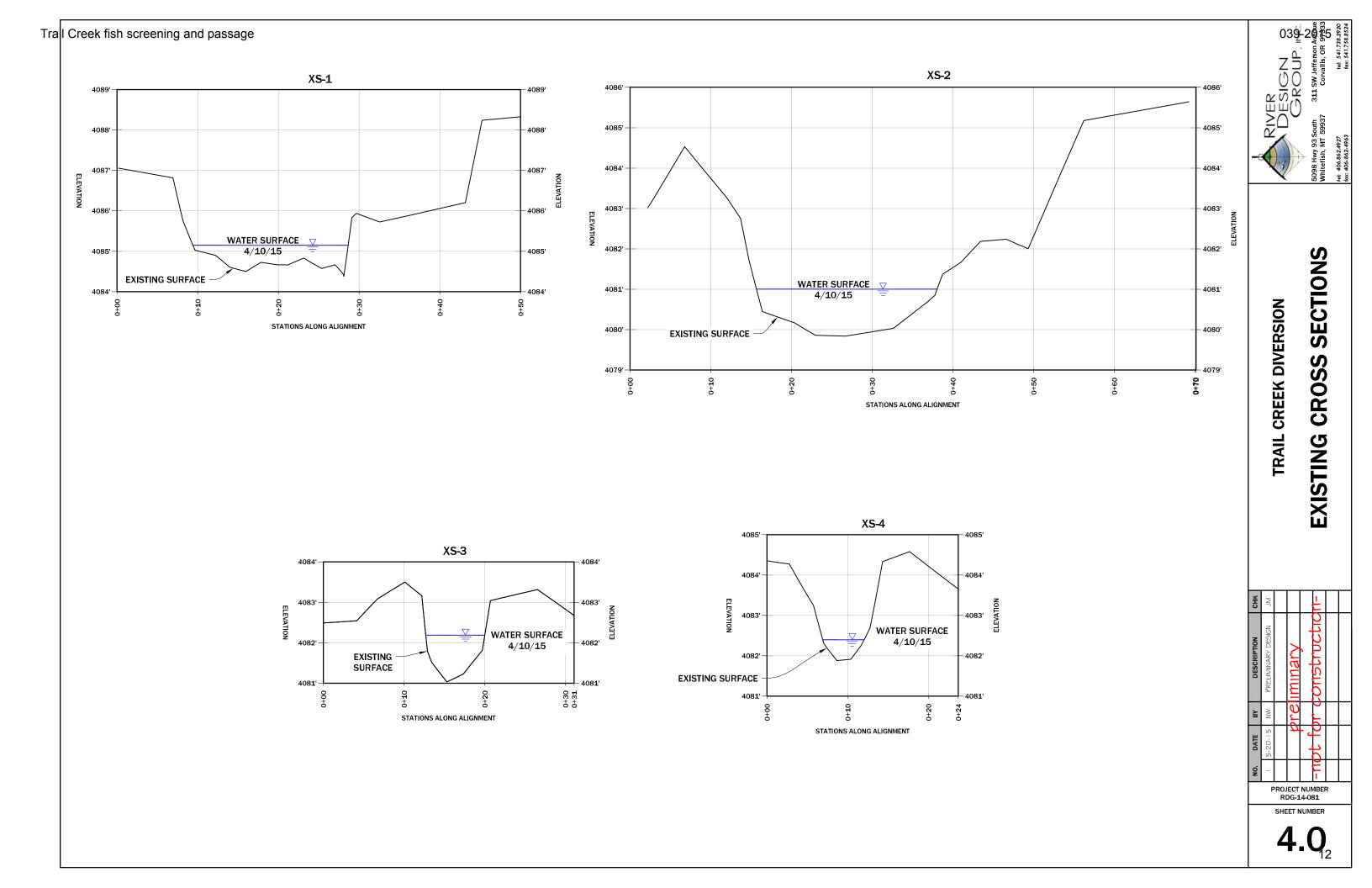


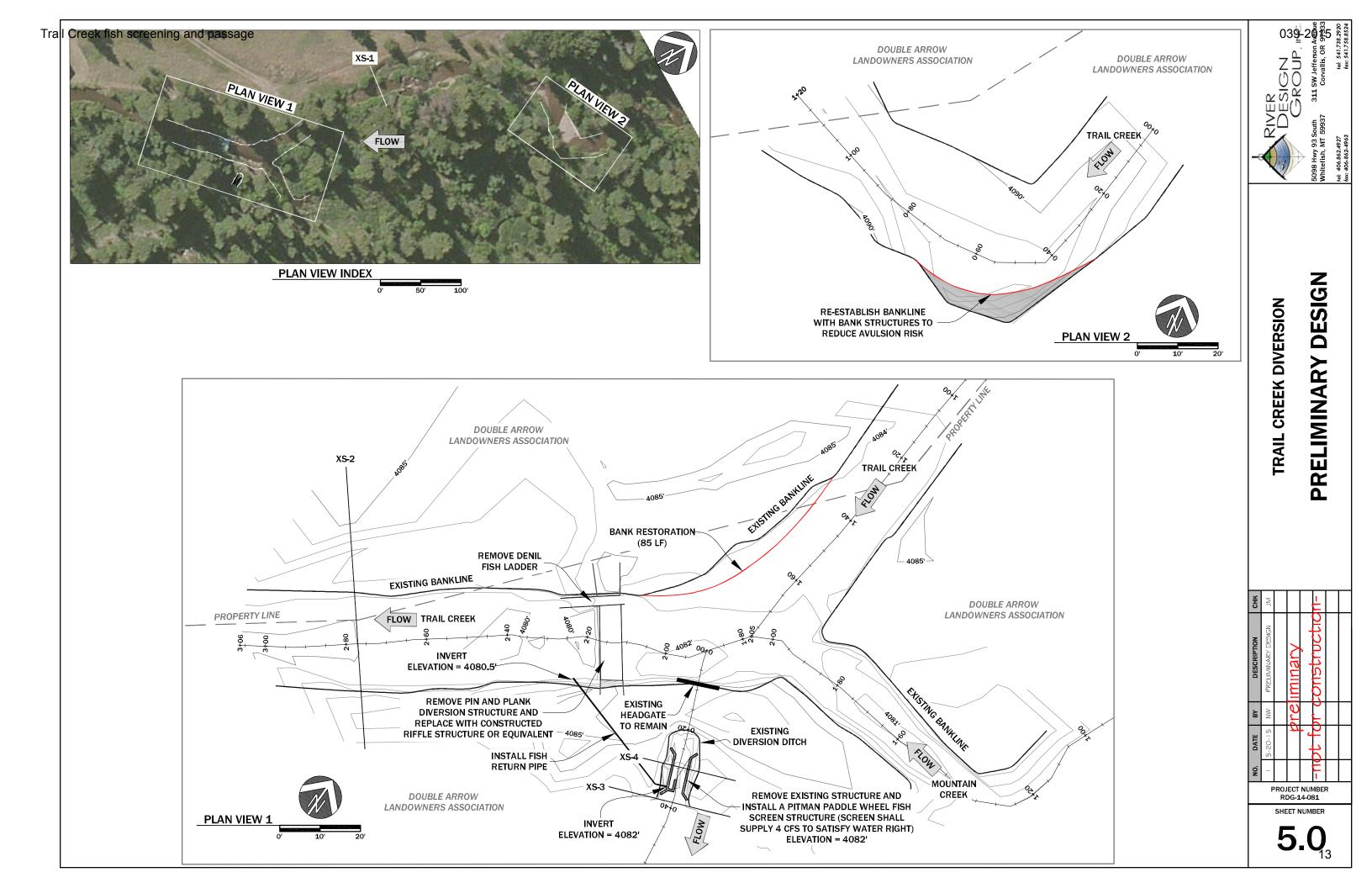


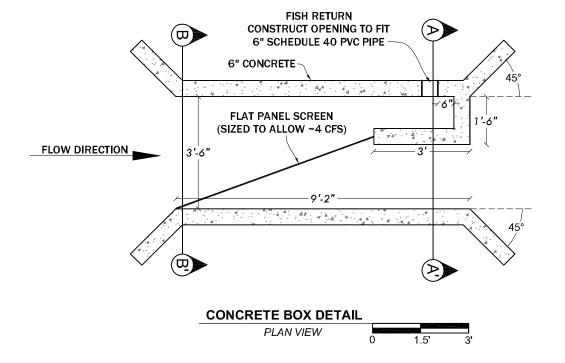
-LEGEND-EXISTING GROUND ELEVATION EXISTING TOP OF BANK WATER SURFACE 4-10-15

PROFILES TRAIL CREEK DIVERSION **EXISTING**









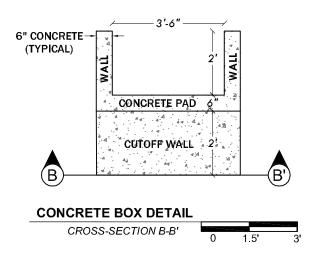
REBAR DETAIL (TYPICAL) NOTE: REINFORCE ALL CONCRETE WITH The rebar 8" ON CENTER FISH RETURN CONSTRUCT OPENING TO FIT 6" SCHEDULE 40 PVC PIPE 6" CONCRETE (TYPICAL) A' CONCRETE BOX DETAIL CROSS-SECTION A-A' 0 1.5' 3'

CONSTRUCTION NOTES

- CONCRETE CONSTRUCTION SHALL CONFORM TO THE AMERICAN
 CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR REINFORCED
 CONCRETE (ACI-318).
- DETAILING, FABRICATION AND PLACEMENT OF REINFORCEMENT SHALL CONFORM TO DETAIL AND DETAILING OF CONCRETE REINFORCEMENT (ACI-315).
- 3. MATERIALS:
 - A. CONCRETE STRUCTURAL CAST IN PLACE FC=3,000 PSI B. REINFORCING MATERIALS - REINFORCING BARS ASTM A615, GRADE 60
- ALL BENT REINFORCING BARS SHALL BE SHOP FABRICATED ONLY.
- CONCRETE COVER OVER REINFORCEMENT SHALL BE 2" CLEAR, EXCEPT FOR CONCRETE PLACED AGAINST EARTH SHALL BE 3" CLEAR, UNLESS OTHERWISE INDICATED.
- 6. LAP REINFORCING BARS THE FOLLOWING MINIMUMS AT ALL SPLICES, CORNERS AND INTERSECTIONS, UNLESS OTHERWISE INDICATED. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BAR.

BAR SIZE	REG. BARS	TOP BARS
#4	1'-7"	2'-1"
#5	2'-0"	2"-7"
#6	2'-5"	3'-1"

- PROVIDE BAR SUPPORTS TO PROPERLY SECURE AND SUPPORT REINFORCING BARS AT POSITION SHOWN ON THE DRAWINGS.
- DOWELS, PIPES AND OTHER INSTALLED MATERIALS AND ACCESSORIES SHALL BE HELD SECURELY IN POSITION DURING CONCRETE PLACEMENT.
- 9. REINFORCING BARS AND ACCESSORIES SHALL NOT BE IN CONTACT WITH ANY PIPE, PIPE FLANGE OR METAL PART EMBEDDED IN CONCRETE. PROVIDE 2" CLEARANCE IN ALL CASES UNLESS OTHERWISE INDICATED. NO EMBEDDED ITEM SHALL BE SUSPENDED FROM, SUPPORTED BY, OR BRACED IN PLACE FROM THE STRUCTURAL REINFORCEMENT.
- 10. LOCATE CONSTRUCTION JOINTS WHERE SHOWN ON THE DRAWINGS OR AS AUTHORIZED BY ENGINEER.
- 11. UNLESS OTHERWISE SHOWN, PLACE 2-#5 (1 EACH FACE) WITH 2'-0" PROJECTIONS AROUND ALL OPENINGS IN CONCRETE WALLS OR SLABS.
- 12. CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" UNLESS OTHERWISE INDICATED
- 13. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FORM WORK.





TRAIL CREEK DIVERSION
CONCRETE BOX DETAIL

СНК	ML				- L		
DESCRIPTION	PRELIMINARY DESIGN		Iminary		วเการเนดต		
ВУ	NW		re		אר פ		
DATE	5-20-15		77	ן די נ	סנ זכ		
NO.	_				и-		
PROJECT NUMBER RDG-15-015							

6.0



3201 Spurgin Road Missoula, MT 59804 Phone 406-542-5506 E-mail <u>lknotek@mt.gov</u> Fax 406-542-5529

May 13, 2015

Future Fisheries Improvement Program c/o Michelle McGree Montana Fish, Wildlife and Parks P.O. Box 200701 Helena, MT 59620-0201

RE: Future Fisheries Application - Trail Creek Fish Screen and Diversion Project

Dear Panel Members:

This letter is written in support of the Trail Creek diversion upgrade proposal submitted by Ryen Neudecker and Big Blackfoot Trout Unlimited (BBCTU). Like many others in the Clearwater basin, this project is a collaborative effort between BBCTU, Montana Fish, Wildlife & Parks (FWP), private landowners, and other local supporters. The project site lies on Trail Creek, a third order tributary within the Morrell Creek system near Seeley Lake. This system is significant for native trout because it supports one of the largest adfluvial bull trout populations in the region and abundant westslope cutthroat trout that are genetically pure in headwater reaches.

The proposed irrigation diversion project will complement numerous efforts in the Morrell Creek watershed over the past eight years. These include large scale public land acquisitions, instream habitat improvement and fish passage projects, headwater road decommissioning, instream flow agreements, protective changes in fishing regulations, increased law enforcement, intensive fisheries monitoring, and previous fish screen/ diversion upgrade projects. The proposed project involves fish passage and fish screening on the last of three major irrigation diversions in the Trail/Morrell Creek drainage. The previous two projects were completed in 2008-2009 and also included instream flow protection agreements.

The proposed Trail Creek diversion project includes three aspects that are beneficial to stream-resident and migratory trout populations. The first involves securing minimum instream flow levels necessary for connectivity and stream integrity. This aspect has recently been resolved through the State's water rights adjudication and negotiation process, which specified allowable

water diversion rates and installation of a measuring device. The remaining two aspects (applicable to this grant application) involve upstream fish passage and fish entrainment in the irrigation canal. The Trail Creek diversion is currently operated with a pin-and-plank check structure and a standard, adjustable headgate. There is also a small denil ladder installed at the site, but its effectiveness is questionable. Once implemented, the proposed project will provide unobstructed upstream fish passage for adfluvial westslope cutthroat trout and bull trout and eliminate fish entrainment associated with the diversion. This will be accomplished by installing a self-cleaning fish screen and a stepped, grade control structure (typically rock weir sequence) that is passable for all sizes and species of fish.

I encourage your strong consideration of this proposal to enhance bull trout and westslope cutthroat trout in Trail Creek and the greater Morrell Creek watershed. This project represents a cost-effective and biologically significant opportunity to partner with a program that has established credibility and a good track record of native trout restoration. Please don't hesitate to contact me if you have questions or need additional information.

Thanks for your work and dedication on behalf of Montana's fisheries.

Sincerely,

William Ladd Knotek
FWP Fisheries Biologist

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United States Department of the Interior

FISH AND WILDLIFE SERVICE Montana Partners for Fish & Wildlife POB 66 Ovando, MT 59854



May 26, 2015

Montana Fish, Wildlife & Parks Future Fisheries Habitat Improvement Panel PO Box 200701 Helena, MT 59620-0701

RE: Stonewall Creek and Trail Creek Fish Screening Projects

Dear Future Fisheries Panel Members:

This letter is written in support of the Stonewall Creek, Trail Creek and Devil's Dip Spring Creek applications submitted by the Big Blackfoot Trout Unlimited (BBCTU). These important projects are a collaborative effort between private landowners, BBCTU, Montana Fish, Wildlife & Parks (MFWP), other local supporters and the USFWS Partners for Fish and Wildlife Program.

The proposed projects will complement numerous efforts in the Blackfoot Watershed during the past 28 years which include instream habitat restoration, fish passage projects, road decommissioning, water conservation, intensive fisheries monitoring and fish screening projects. This broad-based community based conservation and restoration effort has resulted in population increases of almost 800% for westslope cutthroat and bull trout in comparison to baseline numbers.

The Partners for Fish and Wildlife has a long history of working with the associated private landowners and other partners collaborating to restore the cold water fishery of the important tributaries feeding the Blackfoot River. The proposed projects on Stonewall Creek, Trail Creek and Devil's Dip Spring Creek are exciting in that we will be able to continue our efforts of restoring native trout within the watershed by working with committed landowners.

I encourage your strong consideration of this proposal to enhance populations of both resident and migratory westslope cutthroat trout populations on three high priority native trout tributaries in the Blackfoot River watershed. Please don't hesitate to contact me if you have questions or need additional information.

Thanks for all your efforts on behalf of native trout.

Sincerely,

Randy Gazda, Assistant State Coordinator

Lalla